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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,781

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EXAMINER

KHATRI, PRASHANT J

ART UNIT

PAPER NUMBER

1794

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,781	Applicant(s) GOYARTS, GREGORIUS MARIA HUBERTUS	
	Examiner PRASHANT J. KHATRI	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to Amendments/Arguments filed 2/11/2009. Claims 1 and 4-21 are pending. Claims 1, 7-8, 11, and 13 were amended. Claims 2-3 were cancelled.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 4-10, 13-15, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn et al. (**US 5306267**) in view of Levy (**US 5114418**) and Tolbert et al. (**US 20010001300**).
3. Hahn et al. disclose a reusable diaper (**FIGS. 3 and 4**) that is comprised of at least a front panel (**element 12**), middle panel (**element 14**), and back panel (**element 16**). Prior art discloses the front panel is comprised of a polyester wicking fabric, cotton, polyester, nylon, and the like (**col. 5, lines 22+**). The middle panel is an absorbent layer comprised of viscose rayon (**col. 5, lines 44+**). The back panel is a liquid impermeable material such as nylon (**col. 7, lines 24+**). Further, prior art discloses the front and back panels may be joined together by adhesives (**col. 7, lines 57+**). Regarding claims 7 and 21, prior art discloses additional layers (**element 18**) may be disposed between the middle panel and the front panel that are cotton (**col. 6, lines 39+**). As disclosed by prior art, these layers are comprised of cotton, which is one of the least allergenic materials (**col. 6, lines 40+**). Examiner takes the position that this is equivalent to the presently claimed additional anti-allergy layer as cotton is a known

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material that is very anti-allergenic. However, prior art is silent to the use of adhesives in the interfacial areas, the use of moisture-curable plastic materials, and placing adhesive material on the edges of a surface to form a border pattern.

4. Levy discloses a highly absorbent, leak-proof, breathable diaper. Prior art discloses a three-layer diaper that is comprised of at least one layer that is a fabric and reusable (**FIG. 1; col. 1, lines 33+**). Regarding the patterning of adhesive disclosed in claims 1-2 and 8, prior art discloses a urethane adhesive that is applied between the top layer (**element 10**) and intermediate layer (**element 12**) and intermediate layer and bottom layer (**element 14**). Further, it is noted that the adhesive material between the above layers is applied by using a cross-hatch, line-gravure, or dot-roller to ensure the resulting laminations remain intact after machine washings (**col. 2, lines 25+**). Further, Examiner takes the position that the dot-roller would form a series of dots to form the adhesive pattern and forms the presently claimed interfacial region between the layers as shown in Figure 1. Regarding the finishing, it is noted that since the prior art discloses a laminate structure that contains adhesive material in the interfacial regions, Examiner takes the position that the resultant laminate does not undergo any further finishing steps. Further, as shown by prior art, the material is washed for testing purposes to determine durability after curing of the adhesive (**col. 2, lines 30+**). Concerning the amount of adhesive applied, it is considered to be an optimizable feature given that the amount of adhesive directly affects the bond strength of the laminate that one of ordinary skill in the art can adjust. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

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5. Tolbert et al. disclose a method of constructing textile products using curable hot melt adhesives and products made thereof. Prior art discloses that the adhesive used is a moisture curable hot melt polyurethane that reacts with moisture present in the atmosphere to become a thermoset adhesive (**para. 0016**). Prior art also states the adhesive material may be applied between the surfaces of two or more adjacent textile fabrics to form a seam securing the fabrics to each other (**para. 0015**). Concerning the phrase "fully moisture-cured", Examiner takes the position that the phrase means degree of curing and as disclosed by prior art, the process is dependent on time span the textiles and adhesives are allowed to cure (**para. 0038**). Furthermore, prior art discloses that the full cure time for polyurethane adhesive is a period from 1 to 10 days (**para.0049**). Therefore, it is clear that the polyurethane adhesive is fully moisture cured as presently claimed. Prior art also discloses the adhesive material is applied at an initial melt temperature (**para. 0039**). Furthermore, it is noted that the adhesive material is solid at room temperature and once a softening point temperature is reached, a phase change occurs (i.e. solid to liquid phase change) (**para. 0038**). Examiner takes the position that the application of the adhesive material at a temperature above the softening point is equivalent to Applicant's claim that the adhesive material is applied at a temperature higher than the melting point. Prior art further discloses the curable hot melt adhesives are advantageous because they do not require a discrete or separate cure step and using said hot melt adhesives in the presence of various textiles such as cotton accelerate the curing process (**para. 0048**). Examiner therefore takes the

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position that the production process is sped up and considered to be cheaper as the curing step would increase time and decrease productivity of a production line.

Concerning the adhesive application to the border, prior art discloses the adhesive "can be applied between adjacent surfaces of two or more textile fabrics to construct a durable adhesive seam securing the textile fabrics to one another" (***para. 0015, middle of para.***). Given that the definition of "adjacent" as defined by Merriam-Webster is that the term means not distant or having a common endpoint or border, Examiner takes the position that the application of adhesive material to the edges of each surface on a multilayered material is equivalent to the Applicant's claim of patterning a border as the adhesives on the edges will create a border. It is also noted that since this embodiment does not disclose any further finishing steps, the resultant article contains adherences for multiple layers, which would meet the present limitations in claim 1. Further, Examiner takes the position that placing a border on the edges would create better adhesion and prevent delamination of the material.

6. However, note that while Levy and Tolbert et al. do not disclose all the features of the present claimed invention, Levy and Tolbert et al. are used as teaching references, and therefore, it is not necessary for these secondary references to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather these references teach certain concepts, namely, patterning of adhesive materials in the interfacial regions and the use of hot melt moisture curable adhesives in order to ensure the resulting laminations remain intact after machine washings and that

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the production process is sped up and considered to be cheaper as the curing step would increase time and decrease productivity of a production line and in combination with the primary reference, discloses the presently claimed invention.

7. All of the elements were known within the art. The only difference is a single disclosure containing all of the presently claimed elements. Hahn et al. disclose a reusable diaper (**FIGS. 3 and 4**) that is comprised of at least a front panel (**element 12**), middle panel (**element 14**), and back panel (**element 16**). However, prior art is silent to the use of adhesives in the interfacial areas, the use of moisture-curable plastic materials, and placing adhesive material on the edges of a surface to form a border pattern. Levy discloses a three-layer laminate that is a highly absorbent, leak-proof, breathable diaper comprising a patterned adhesive material disposed in the interfacial regions between the layers. Tolbert et al. disclose a method of constructing textile products using curable hot melt adhesives and products made thereof.

The motivation to combine the above references is drawn towards the patterning the adhesive material between the each layer a three-layer laminate applied by using a cross-hatch, line-gravure, or dot-roller to insure the resulting laminations remain intact after machine washings. The use of a hot melt moisture-curable adhesive discloses the curable hot melt adhesives are advantageous because they do not require a discrete or separate cure step and using said hot melt adhesives in the presence of various textiles such as cotton accelerate the curing process. Further, in providing adhesives on the edges allows for the formation of “durable adhesive seam[s] securing the textile fabrics to one another”. The resultant article is a durable material that can withstand multiple

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washings with interfacial adhesive patterning in three-layer systems and also providing for a fast and cheap way to produce materials containing adhesives as shown by Tolbert. Therefore, it would have been obvious to one of ordinary skill in the art to apply a patterned hot melt moisture curable adhesive in the interfacial regions of the laminate disclosed by Hahn et al.

8. Claims 11-12 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn et al. (**US 5306267**) in view of Levy (**US 5114418**) and Tolbert et al. (**US 20010001300**) as applied to claims 8-10 and 15 above, and further in view of McIntyre (**US 4911948**).

9. Prior art discloses the above in paragraphs 10-15. However, prior art is silent to the use of screen printing.

10. McIntyre discloses a method of screen printing of hot melt adhesives onto moving web substrates such as diapers and the like (**col. 2, lines 19+**). The screen printing apparatus is comprised of a slot nozzle within a screen cylinder sleeve (**col. 3, lines 37+**). Furthermore, it is noted that the hot melt adhesive material can be a polyurethane moisture cure type (**col. 6, lines 14+**). Regarding the heated stencil, prior art discloses the screen cylinder sleeve is heated to prevent solidification of the adhesive material (**col. 2, lines 39+**). Examiner takes the position that the screen cylinder has pores to allow dispersion of the adhesive material as the stencil as the adhesive material is distributed through the pores, which is the primary purpose of the stencil. Given that the screen cylinder is heated to prevent the clogging of the pores,

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the temperature would inherently be at a temperature above the melting point as if the temperature would be below, the pores of the screen cylinder would be clogged.

Concerning the seamless nature of the cylinder, as shown by prior art in Figure 3, there is no seam on the cylinder. The process and apparatus as shown allows for improved speed and viscosity regulation by heating (**cols. 1 and 2**). Regarding the cutting of individual articles made from the continuous process, prior art discloses a die cutting process may be added after the screen printing process (**col. 2, lines 8+**). Examiner takes the position that the use of a cutting process after lamination to produce individual articles is an obvious addition to the manufacturing process as it would allow for easier packaging of goods for sale.

11. However, note that while McIntyre does not disclose all the features of the present claimed invention, McIntyre is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, screen printing of adhesive material using a roller stencil in order to increase production of articles containing adhesives on web material and in combination with the primary reference, discloses the presently claimed invention. All of the elements were known within the art individually. The only difference was a single disclosure containing all of the presently claimed elements. Prior art discloses the above in paragraphs 6-10. However, prior art is silent to the screen printing process. McIntyre discloses a rotary screen printing process onto web substrates using

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a hot melt adhesive. Although McIntyre only discloses the screen printing process onto one layer of material, it would be obvious to one with ordinary skill in the art to use a second screen printing section to coat a second layer of material. The motivation to combine the above references is drawn towards the increase in production and uniformity of the adhesive layer as shown by McIntyre (**col. 2, lines 25+**). Therefore, it would have been obvious to one of ordinary skill in the art to apply the adhesive material in the resultant laminate shown above.

Response to Arguments

12. Applicant's arguments, see p. 6, filed 2/11/2009, with respect to the 35 USC 112, 2nd paragraph rejection of claims 1-21 have been fully considered and are persuasive. The rejection of claims 1-21 has been withdrawn.

13. Applicant's arguments, see p. 7, filed 2/11/2009, with respect to the 35 USC 102(b) rejection of claims 1-2, 8, and 19-20 regarding the Levy reference have been fully considered and are persuasive. The rejection of the above claims has been withdrawn. Examiner acknowledges present claims have overcome the previous rejection.

14. Applicant's arguments, see p. 8-9, filed 2/11/2009, with respect to the 35 USC 102(b) rejection of claims 1, 2, 4-6, 8-10, 13-14, and 18-20 regarding the Tolbert reference have been fully considered and are persuasive. The rejection of the above claims has been withdrawn. Examiner acknowledges present claims have overcome the previous rejection.

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15. Applicant's arguments filed p. 9-11 have been fully considered but they are not persuasive. Applicant asserts that one of ordinary skill in the art would have no motivation to apply the adhesive deposition disclosed by Levy into the laminate of Hahn. However, as shown by Levy, the motivation to place adhesive material into a pattern (i.e. dots by a dot roller, cross-hatch, lines) allow for good bond strength and resulting laminations remain intact after machine washings (**col. 2, lines 25+**). Furthermore, the laminate of Hahn disclose a laminate that is comprised of materials that are the same as that presently claimed provides for a reusable diaper capable of maximum health protection, ecological sensibility, balance of comfort, cost, and absorbency (**abstract**). Given the above adhesive scheme disclosed by Levy to provide intact laminations, it is clear that no further finishing is needed and also resulting in the reduction of wrinkling.

Applicant further asserts "Applicant does not merely apply the adhesives along the border" and paragraph 0015 of Tolbert only recites one embodiment. It is noted that Examiner is relying upon the alternative embodiments which further recites that the application to the edges allows for durability and flexibility. It is also noted, as shown above by Levy that dots, cross-hatching, and/or lines allows for bond strength and lamination washability. Therefore, it is clear that combination would affect bond strength and washability.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRASHANT J. KHATRI whose telephone number is (571)270-3470. The examiner can normally be reached on M-F 8:00 A.M.-5:00 P.M. (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

PRASHANT J KHATRI
Examiner
Art Unit 1794